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November 8, 2010

Mr. John Griffin, Secretary
Maryland Department of Natural Resources
580 Taylor Ave.
Annapolis, MD 21401

Mr. Earl Hance, Secretary
Maryland Department of Agriculture
50 Harry S. Truman Pkwy.
Annapolis, MD 21401

Mr. Richard Hall, Secretary
Maryland Department of Planning
301 West Preston St., Suite 1101
Baltimore, MD 21201

Ms. Shari Wilson, Secretary
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

Dear Secretaries Griffin, Hall, Hance, and Wilson:

In August 2010, the Chesapeake Bay Foundation (CBF) submitted a letter with our recommended actions to be included in Maryland's Watershed Implementation Plan (WIP). The overarching premise of each of our recommendations was to challenge Maryland to go beyond the status quo, as a WIP that contains largely the same practices and approaches as previous plans will not result in water quality improvements.

While CBF congratulates Maryland for outlining a suite of actions that, if fully implemented, could meet statewide allocation targets for nutrients and sediment, we remain concerned that Maryland's draft WIP does not discuss meaningful changes to current programs, policies, or funding mechanisms that would actually result in achievement of the targeted reductions. In short, the WIP does not provide reasonable assurance that it will achieve pollution reduction requirements and improve water quality throughout the state of Maryland.

As you know, the process of developing the Bay-wide TMDL actually began over a decade ago with a series of federal judicial consent decrees and settlement agreements that addressed the failure of the Bay jurisdictions to meet the Clean Water Act (CWA) requirement of identifying all impaired waters within their respective boundaries and developing TMDLs for those waters. In 1998, Maryland entered into a memorandum of understanding with Environmental Protection Agency (EPA) that required Maryland to complete listing its impaired waters and develop TMDLs for those waters within 10 years. 1998 Memorandum of Understanding between the State of Maryland and the U.S. Environmental Protection Agency. Pursuant to that agreement, EPA would complete the listings and TMDL development if Maryland did not.

On June 28, 2000, the governors of Virginia, Maryland, and Pennsylvania, the chair of the Chesapeake Bay Commission, and the Mayor of the District of Columbia responded to the various decrees and agreements by signing, with then EPA Administrator Carol Browner, the

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Chesapeake 2000 agreement which, among other things, committed to reduce nitrogen, phosphorus, and sediment sufficiently to remove the Bay and its tidal tributaries from the impaired waters lists by 2010.

In December 2003, EPA, Maryland, and the other Bay jurisdictions agreed to the nitrogen, phosphorus and sediment allocations that became the basis for "tributary strategies," designed to remove the Bay and its tidal tributaries from the impaired waters lists by 2010. Maryland completed its Tributary Strategy in 2004 and an implementation plan in 2007.¹ The failure to achieve that goal triggered the need to develop the Bay TMDL – a process in which Maryland has been a full and cooperative participant.


Consistent with EPA's letters to the Principals' Staff Committee of September 11, 2008, November 4, 2009, and April 2, 2010, we strongly encourage the state to provide the necessary details in their WIP for how they will achieve the necessary reductions. EPA's assessment of Maryland's WIP shortcomings is correct in noting the lack of specifics on necessary changes to existing programs; unbalanced focus on point source reductions to meet 2017 reduction targets; and the need for "enforceable or otherwise binding commitments" to achieve agricultural and stormwater reductions. Attached hereto and incorporated herein by reference are EPA's assessments.

We have provided "CBF's Detailed Comments on Maryland's Draft WIP," dated November 8, 2010, as an attachment hereto. It is incorporated herein by reference. Without the bold actions enumerated in these Comments, Maryland will fail to provide reasonable assurance, will not meet its current Milestones, and will not make significant progress toward TMDL implementation.

In submitting these comments, we incorporate herein by reference the comments of the Choose Clean Water Coalition; those of Donald Boesch, *et al.*; and those of CBF, all of which were sent to Administrator Jackson in reference to Docket no. EPA-R03-OW-2010-0736.

We look forward to continuing to work with you to ensure Maryland meets its pollution reduction requirements.

Sincerely,


Kim Coble
MD Executive Director


Jenn Aiosa
MD Senior Scientist

cc: Jason Dubow, MDP
Beth Horsey, MDA
Catherine Shanks, DNR
Tom Thornton, MDE
Matt Gallagher, Office of the Governor

¹ Maryland's Chesapeake Bay Tributary Strategy Statewide Implementation Plan.
http://dnr.maryland.gov/bay/tribstrat/implementation_plan.html

1. THE WIP NEEDS ENFORCEABLE AND BINDING COMMITMENTS TO INCREASE WATER QUALITY PROTECTIONS

The Draft Phase I WIP contains few commitments that would provide “reasonable assurances” that nonpoint pollution reduction targets will be met. While the WIP contains options to expand agricultural best management practice implementation, increase stormwater retrofit requirements, increase advanced septic system technologies, and increase natural filters on private and public lands, there are no commitments for changing programs, developing new regulations, generating dedicated revenues, or creating other requirements that would ensure these actions are actually taken. Such options need to be backed with enforceable or otherwise binding commitments because voluntary implementation alone will not be sufficient to meet the extensive list of actions required to meet Maryland’s nutrient pollution reduction goals under the Bay Total Maximum Daily Load (TMDL) currently proposed by EPA.

It is imperative that Maryland include concrete commitments regarding the programmatic, statutory, and regulatory changes – including commitments to necessary funding - that will be necessary to provide not only “reasonable assurances” for the federal EPA, but can give stakeholders in Maryland the confidence that all sectors are being required to increase their actions in measurable and accountable ways. In order to substantially increase implementation of outlined activities, the State and Local governments, private individuals, and others in the private sector will have to increase their resources targeted to pollution reductions. Below are several opportunities where reasonable assurances can be achieved through regulatory, statutory, or programmatic changes that are enforceable or otherwise binding commitments.

Increase the Bay Restoration Fund to Ensure ALL Major Wastewater Plants are Upgraded On Schedule

Maryland’s Bay Restoration Fund (BRF) has been a model of success by creating a dedicated fund for pollution reductions. Since its creation in 2004, the modest fee on wastewater treatment and septic users has generated significant funding to upgrade the state’s largest wastewater treatment facilities as well as fund septic system upgrades and nonpoint pollution control with cover crops. Unfortunately, initial cost projections have largely been exceeded as wastewater treatment facilities go through engineering, design, and construction. It is now estimated that the BRF will begin experiencing a structural deficit as early as 2012, short by more than \$500 Million².

The only solution that will ensure continuity in facility upgrades – and ensure both essential pollution reductions and compliance with the existing upgrade schedule – is to increase the BRF fee. Increasing the current monthly fee from \$2.50 per Equivalent Dwelling Unit (EDU) to \$5.00 per EDU will provide sufficient revenues to complete the task of upgrading all 67 major treatment facilities to Enhanced Nutrient Reduction (ENR) technology while still meeting the existing upgrade schedule. Since the Draft WIP relies heavily on point source reductions to meet its 2017 nutrient reductions, it is incumbent on the state to ensure that the necessary funding will be in place to provide reasonable assurance of achievement of these reductions.

² <http://www.mde.maryland.gov/assets/document/BRF-2010LegislativeUpdate-Draft.pdf>

Stipulate Specific Performance Standards for Urban Stormwater Retrofits

Maryland's WIP lacks sufficient details regarding performance of stormwater retrofits and "restoration" activities in urban areas. Such retrofits and restoration of urban lands is the cornerstone of Maryland's WIP to reduce loads from existing development, yet there is no clear indication of what actions must be taken to "count" toward these load reduction goals. Maryland must better articulate the kinds of practices that would be acceptable to retrofit untreated urban and suburban lands, and ensure consistency with existing regulations that require Environmental Site Design (ESD) and lower impact technologies and approaches to meeting stormwater treatment requirements. For example, urban retrofits should focus on the installation of decentralized practices that maximize infiltration, filtration, evapotranspiration, or reuse as treatment methodologies, and must strive to treat at least the water quality volume from the contributing area.

Furthermore, Maryland must ensure that all retrofits, whether as part of the MS4 permits to meet load reduction requirements for the TMDL, or required under the Stormwater Management Act as a condition of redevelopment, be adequately designed, installed, inspected and maintained. The state needs to describe how they intend to track and enforce these requirements to meet the 2007 law and the MS4 provisions.

Require the Implementation of Local Stormwater Infrastructure Revenue Streams

The Draft WIP correctly identifies existing, unmanaged stormwater as a key target for retrofit in order to reduce nutrient and sediment pollution from the developed sector. The State has laid out three possible retrofit requirements for inclusion in the Phase I MS4 permits as they come up for revisions and modification: 30%, 40%, or 50%, and has asked for specific feedback. CBF supports inclusion of the 30% retrofit requirement – requiring MS4 jurisdictions to retrofit 30% of their currently untreated area during the permit term – consistent with the current Montgomery County MS4 permit. Achieving this level of retrofit within the five year permit term is an ambitious target. However, aggressive retrofits in our urban environments are necessary to restore stream health and reduce nutrient and sediment loads from developed areas.

A primary obstacle that the state must help to overcome is the lack of sufficient dedicated revenues to specifically address the expensive needs associated with stormwater management and retrofits within existing urbanized areas. Most counties currently allocate minimal resources to meet basic stormwater program functions. Local jurisdictions need to develop and implement local stormwater infrastructure fees (based on the amount of impervious surfaces or similar mechanism) both to generate sufficient funds for infrastructure improvements and stormwater retrofits, as well as to fund ongoing inspections and maintenance of urban and suburban stormwater facilities. Much of the future TMDL implementation will fall on local governments; they therefore, must be prepared to pay for necessary upgrades, retrofits, and restoration work.

Unfortunately, current statutory authority which allows local governments to impose such fees has largely been unutilized. The State must require the creation of local infrastructure revenue streams. The time has come for the state to legislatively require local jurisdictions with stormwater responsibilities to create local stormwater infrastructure revenue streams through an impervious surface fee or similar assessment of a user fee. Such a state requirement would ensure all jurisdictions have resources to help meet stormwater management requirements, while ensuring modest parity among jurisdictions fearful of "going it alone." An additional "incentive" would be to directly tie State financial assistance - via grants, low interest loans, and technical assistance for stormwater infrastructure improvements, retrofits and related restoration work - to the establishment of a local stormwater revenue stream.

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Develop a Nutrient Trading Policy for MS4 Permittees

The cost to reduce nitrogen and phosphorus from stormwater systems through retrofits is by far the most expensive among all sectors. Recent analysis by the World Resources Institute indicates that nutrient trading could save MS4s hundreds of millions of dollars per year.³ If MS4s could purchase nutrient credits for a portion of their waste load allocation, they could substantially reduce their compliance costs. The trading policy must be predicated on the protection and maintenance of local water quality and be constrained to local segments if receiving waters are impaired, in order for MS4 permittees to participate in Maryland's Phase I and Phase II (non-point source) trading programs.

Improve Stormwater Management from Smaller Jurisdictions and Active Construction Sites

Because untreated urban and suburban stormwater must be addressed in order to reduce pollution loads from existing developed areas, the draft WIP must detail the efforts Maryland will pursue to expand retrofit requirements in Phase II permits. Additionally, Maryland must expand the scope of the MS4 program to include smaller jurisdictions with populations of 5,000 – 10,000. Many of these communities lack stormwater management and may represent meaningful opportunities for restoration and retrofits. Adding requirements in Phase II permits to retrofit 40% of untreated impervious acres by 2020 should also be included in the final WIP.

In addition to expanding stormwater treatment to even smaller areas of existing development, Maryland must also make significant improvements in their existing General Construction Permit in order to reduce stormwater pollution from active construction sites. General Permit requirements need to include clear rules for limited phased site grading, and much more rapid site stabilization than the current 14-day stabilization, as well as requirements for buffers on all active construction sites. In this regard, mandatory pollution prevention requirements would go a long way toward addressing a significant source of sediment and nutrients entering Maryland's impaired waterways.

Improve Nutrient Management Planning and Implementation

The recent draft report by the U.S. Department of Agriculture highlights that although progress has been made on reducing sediment, nutrient, and pesticide losses from farm fields through conservation practice implementation in the Chesapeake Bay region, a significant amount of conservation management remains to be done to reduce nonpoint agricultural sources of pollution⁴. Specifically, the report indicates that significant improvement is still needed in nutrient management (proper rate, form, timing, and method of application) throughout the region. About 81 percent of the cultivated cropland acres require additional nutrient management to reduce the loss of nitrogen or phosphorus from fields. The most critical conservation concern identified in the report is loss of nitrogen through subsurface pathways, most of which eventually contribute to surface water loads. This highlights not only the importance of cover crops, but also the need for Maryland to revise its nutrient management plan (NMP) regulations to address the issues of rate, timing and method of application and identify the resources necessary to ensure their implementation. Furthermore, we note there is a severe technical

³ World Resources Institute. 2010. How Nutrient Trading Could Help Restore the Chesapeake Bay. <http://www.wri.org/publication/how-nutrient-trading-could-help-restore-the-chesapeake-bay>

⁴ USDA October 2010. Assessment of the Effects of Conservation Practices on Cultivated Cropland in the Chesapeake Bay Region

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assistance “bottleneck” for the development of comprehensive nutrient management plans for concentrated animal feeding operations. Maryland must devise a detailed strategy for achieving compliance and enforcement of these applicable state and federal regulations.

Require Cover Crops on Priority Acres to Achieve Annual Goal

Maryland is assuming substantial nitrogen reductions from the agricultural sector will come from planting cover crops on more than 300,000 acres each and every year. The Draft WIP outlines two scenarios for cover crop implementation – 355,000 or 500,000 acres annually - but includes no details of necessary programmatic or regulatory changes to achieve either. Without such details on enforceable or otherwise binding mechanisms, the draft WIP fails to provide the required reasonable assurance that the state can accomplish the outlined reductions from cover crops. In recent years, the Maryland Department of Agriculture (MDA) has increased per acre payment opportunities to incentivize early planting, planting of preferred grains, and cover crop planting after manure in order to maximize cover crop implementation⁵. However, this incentive-driven, voluntary program still struggles to increase participation to current 2-year Milestone levels of implementation (325,000 acres/year by 2011); therefore, the state needs to look beyond voluntary or purely incentive-driven programs.

Maryland must change its approach to implementing cover crops. Cover crops must be required on acres most at risk for nitrogen loss as a mechanism for raising rates of implementation and targeting limited cost-share dollars where the greatest environmental benefits can be gained. At a minimum, cover crops must be required for fields after corn and on acres that have received manure. These scenarios currently are eligible for bonus payments under the cover crop program because they represent the best opportunity for residual nitrogen uptake by a winter crop which would likely otherwise be lost to the environment. Roughly 470,000 acres of corn were planted in 2009⁶ suggesting such a strategy of requiring cover crops on targeted high-risk acres could achieve annual implementation goals. Maryland's Water Quality Improvement Act and its implementing nutrient management regulations could be amended to require cover crops under specific circumstances, as an element of sound nutrient management. Only by amending the state law and regulations will Maryland have an enforceable mechanism to ensure that nutrient reductions could be counted on. Cost-share should remain available to these acres to help defray costs, but if necessary, per acre payments should be reduced to a level that would allow the state to offer financial assistance to all high risk acres.

Require Riparian Buffers Statewide

Buffering waterways is one of the most important ways to reduce nitrogen pollution of Maryland's rivers and streams. Maryland's Tributary Strategies recognize this by collectively calling for more than 93,000 acres of forested and grassed buffers on farm land, as well as fencing more than 11,000 acres of stream to prevent livestock access, and subsequently allow vegetation to reestablish and protect the streams. Unfortunately, progress on Maryland's first Milestone goals for forested and grassed buffers does not reflect the importance of these practices; as of May 2010, the state had met only 8% of its forested buffer milestone (245 of 3,000 acres) and about 17% of its grassed buffer milestone (1,196 of 7,000 acres)⁷.

⁵ http://www.mda.state.md.us/resource_conservation/financial_assistance/cover_crop/index.php

⁶ http://www.nass.usda.gov/Statistics_by_State/Ag_Overview/AgOverview_MD.pdf

⁷ <http://www.baystat.maryland.gov/2yearplan.html>

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Maryland should require buffers on ALL streams statewide, both on farms and developed land, and target cost-share funding to buffer implementation where they currently do not exist. Buffers provide long-term, highly efficient nutrient reduction and stretch the benefits of limited cost-share dollars beyond a single year. Furthermore, buffers provide myriad environmental benefits including habitat, stream temperature moderation (forested buffers), nutrient removal (2-8 times the nitrogen removal) via in-stream processing (forested buffers)⁸ and carbon sequestration.

The state must maximize use of the Conservation Reserve Enhancement Program (CREP) and Maryland's Agricultural Cost Share (MACS) Program to implement and maintain buffers on farm land, especially those adjacent to impaired waterways and on highly erodible lands. An opportunity for achieving greater buffer retention and restoration on developed lands would be upgrading the Forest Conservation Act (FCA) to a true "no net loss" standard, by increasing mitigation requirements and targeting additional plantings to riparian areas. To achieve such a target, the FCA could be amended to allow a higher "credit" assignment to reforestation or aforestation of riparian areas than reforestation or aforestation that takes place away from streambeds. Fees-in-lieu collected through FCA mitigation should also be focused on replanting and expanding riparian forest areas as well.

Require Phosphorus-Based Management that Protects Water Quality

It is widely recognized that current use of the P-Index in Maryland is not adequately protective of water quality, especially in areas of high animal concentration, notably the lower Eastern Shore. As currently utilized, Maryland's P-Site Index allows for additional phosphorus to be applied to P-saturated soils. Phosphorus-based nutrient management must protect water quality, be reasonably simple to understand and implement, and balance manure use with crop removal.

A top priority must be placed upon the current WIP recommendation to reevaluate and revise the current state P-Index to incorporate the best available science and more appropriately identify the risk for phosphorus movement from cropland. Reevaluation of the threshold that currently triggers required use of the PSI is a parallel necessary action. In Maryland, use of soil fertility values of 150 or greater may result in preventable P losses from soils with lower soil test phosphorus levels⁹. Maryland should also work with the other Bay states to determine an appropriate schedule under which the region can transition phosphorus-based management to a more sustainable approach. Ultimately, the goal must be to balance manure applications with crop phosphorus removal on all farms in the Bay watershed.

⁸ Sweeney, B.W., T.L. Bott, J.K. Jackson, L.A. Kaplan, J.D. Newbold, L.J. Standley, W.L. Hession, and R.J. Horwitz. (2004) Riparian deforestation, stream narrowing, and loss of stream ecosystem services. *Proceedings of the National Academy of Sciences*. Pp14132-14137.

⁹ K. Staver, personal communication

2. THE WIP MUST BETTER ACCOUNT FOR AND LIMIT NUTRIENT LOADS FROM GROWTH

First reduce, and then require offsets for ALL remaining incremental increases in pollution

The use of a separate "Future Allocation" for accommodating new growth is contrary to the entire TMDL and WIP goal of reducing and capping pollution. Future Allocation transfers the burden of pollution reduction to other sectors and pre-supposes success. A separate Future Allocation also places infill and Smart Growth at an artificial disadvantage. The concept of Future Allocation must not be included in the WIP. All urban sources, both existing and new, need to be classified in a single sector and be held accountable for the nutrient reductions needed in the watershed. Furthermore, the methods for tracking the impact of growth must be uniform across local jurisdictions and publicly accessible in a single location coordinated by the state.

In contrast, the inclusion of offsets, with forest as the baseline, for pollution loads associated with growth, is a positive element of the draft WIP. The draft WIP appropriately lays out a concept that differentiates between growth that occurs in higher density areas with low per capita load potential, versus growth that occurs in more remote, less dense areas where per capita pollution loads are higher, provided that high-per-capita loads are offset at a ratio of at least 2:1. Criteria for designating mid-per-capita areas, consistent with the criteria for designating Priority Funding Areas, are an additional necessary element. This model, combined with the 2007 Stormwater Management Act and implementing regulations which set different stormwater management standards for redevelopment versus green field development, will strengthen the state's foundation for smart growth.

However, the proposed policy is incomplete without concerted efforts to first prevent and minimize new pollution loads associated with growth, prior to considering and awarding offsets. Combined, new development and septic systems are projected to add 2.2 million pounds of nitrogen to Maryland's portion of the watershed by 2020 - a significant portion of Maryland's total projected "gap" in nutrient reductions. In this context, the WIP's use of offsets as the primary means to control the impacts of growth is insufficient for the following reasons:

- offsets place little responsibility on local government to modify future land use plans to benefit water quality;
- offsets are not expected to be widely available in the near term;
- over the long term, offsets may become more attractive than on-site minimization and treatment of pollution, to the detriment of nutrient reduction efficiency and local environmental quality; and
- contingencies are not delineated for situations where offsets are unavailable.

The WIP needs to limit the use of offsets by prioritizing prevention and on-site load reduction as the primary way to address proposed new loads due to growth. After minimizing new loads, on-site treatment should be instituted to the maximum extent practicable. Only after this sequence of avoidance and minimization is exhausted, should offsets be allowed to be used. In addition to this offset "sequencing", the actions outlined below (and in the prior section on buffers) should be taken to ensure that new loads from growth are efficiently and effectively controlled.

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Furthermore, Maryland must outline how offsets will be handled in the interim three years while it finalizes the offset program. During this interim, Maryland must effectively manage offsets from new loads associated with growth in an enforceable manner.

Curtail the Use of Septic Systems for Large New Development

There are more than 430,000 septic systems in Maryland, and new traditional systems are added each year. An estimated 7 percent (3.6 million pounds per year) of the total nitrogen load in Maryland comes from septic systems. New septic systems are, collectively, a substantial annual new source that is currently not required to be offset or otherwise mitigated, and most are not even required to use Best Available Technology (BAT) for nitrogen removal. Based on current growth trends, Maryland's Department of Planning (MDP) projects about 145,000 new septic systems will be added over the next 20 years, resulting in a 34-percent increase in nitrogen loads from septic systems in Maryland¹⁰.

The State must commit to limiting new development on septic systems by legislatively prohibiting the use of septic systems to serve new major subdivisions. Major subdivisions belong in designated growth areas, where they can be served by centralized sewer. Any new major subdivisions to be built outside of centralized sewer service areas must utilize centralized collection and treatment processes that improve nitrogen removal over traditional septic systems and include routine maintenance and operation by a trained, responsible party. The system should be sized to serve only the proposed project, and must be consistent with the local jurisdiction's approved master plan for water and sewerage. Maryland cannot continue to allow sprawl development on septic systems for a number of reasons, not the least of which is that it equates to an end-run around state point source caps on wastewater treatment plants.

Cap Septics at 2010 Loads

Non-point source loads associated with a county's septic systems must be assigned an "allocation" – effectively a cap based on the number of systems in service in 2010. County master plans for water and sewerage must describe how the county intends to maintain the allocation and operate a program to offset nitrogen loads in accordance with the state's guidance on trading and offsets. By tying this allocation to local water and sewer planning, local jurisdictions will have a meaningful tracking mechanism as well as flexibility for how offsets are implemented. By establishing this effective "cap" any new septic system installed would have to offset its new load, just as a new wastewater facility would have to.

Require All New Septic Systems to Utilize Nitrogen-Reducing Technology

Traditional septic systems rely largely on technology that is more than 100 years old. When improvements are made to homes, modern building codes must be considered, and systems must often be "upgraded" to comply

¹⁰ <http://planning.maryland.gov/OurWork/smartGrowthIndicators.shtml>

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with more advanced standards for health and safety. Why, then, should Maryland continue to allow the routine replacement of failed septic systems with antiquated technology that pollutes surface and groundwater, and threatens public and environmental health? Maryland's WIP must include new requirements that any new on-site system and all replacement septic systems must be required to include nitrogen removal technology.

3. REVISIT AGRICULTURAL OPTIONS FOR NITROGEN REDUCTIONS

Focus "Gap Closers" on Practices with Known Nitrogen-Removal Efficiencies

The Draft WIP suggests that even the "accelerated" Milestone rates of implementation of agricultural practices will result in a "source sector gap" of 1.4 million pounds of nitrogen, if outlined levels of implementation of cover crops and other practices are achieved annually. The draft WIP outlines a series of options that might be utilized to address this sizeable sector gap. Unfortunately, many of these options are largely untested and have no verified nitrogen removal efficiency data associated with them. Such a large pollution reduction gap would be better addressed through more aggressive implementation of practices with reliable nitrogen reduction efficiencies. Furthermore, the draft WIP lacks sufficient details on the gap-filling strategies, so there is no way to know if, as outlined, the strategies will meaningfully reduce nutrient pollution loads from the agricultural sector.

Generally speaking, the agricultural sector strategy needs to increase rates of implementation for most of the practices currently listed at, or slightly higher than, current 2-year milestone rates. It is precisely these practices – including fencing cattle from streams, planting buffers, building poultry litter storage facilities, and employing conservation tillage – that can be easily incorporated into current funding programs and farm operations. These practices meet multiple objectives on most operations, and have been undertaken routinely within Maryland, with known costs and outcomes.

Increasing rates of implementation will not be without challenges, most notably in technical and financial assistance. The State should address these problems now by identifying and securing additional revenues and determining how to meet the statutory requirement to fully fund Soil Conservation Districts with technical personnel. One idea to provide additional financial resources would be to model a transferrable tax credit program in Maryland after Pennsylvania's successful Resource Enhancement and Protection (REAP) Program, which can incentivize private sector investments in agricultural conservation.

In order to accelerate implementation of some of these practices, Maryland must also look to the use of flexible standards. For example, it was clearly stated at the statewide WIP public meetings that farmers generally want to fence cattle from waterways because of the dual benefits of improved stream and livestock health. In many cases, minimal fencing is necessary to complete the job (2-strand wire versus USDA-recommended 5-strand fencing) and more modest fencing can be more attractive to farmers who rent the land they farm. CBF routinely works with farmers in central Maryland to implement such fencing projects, but these exclusions currently do not "count" toward nutrient reductions in the Bay model. Use of more flexible standards, only where appropriate, can be a cost-effective way of stretching limited cost-share funding and increasing implementation rates simultaneously.

Use of Innovation

Innovative approaches to meeting the challenges of nutrient reduction in our agricultural sector are a key ingredient of a successful WIP. One such innovative approach that is not currently included in the draft WIP is the conversion of marginal crop land to permanent vegetative cover. The benefits of permanent vegetative cover, including hay, pasture, and specialty crops such as orchard trees, vineyards, or perennial grasses for energy production, can not be over-stated. Covers such as hay or pasture grasses, require much lower fertilizer inputs, and in the case of hay, could be highly valuable to Maryland's growing equine industry.

This kind of permanent cover can be undertaken as a whole-farm transition to a different farm system, or as an opportunity for diversification on existing grain land, with hay or grasses grown on marginal land. CBF supports the use of funds from the current cover crop program to support these kinds of transitions to permanent cover, as a related practice that has longer-term benefits for a farm.